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U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE
WATER SUPPLY OUTLOOK
FOR
MONTANA

and
FEDERAL · STATE · PRIVATE COOPERATIVE SNOW SURVEYS
Collaborating with
MONTANA AGRICULTURAL EXPERIMENT STATION

AS OF
APR. 1, 1979

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
P.O. Box 98
BOZEMAN, MONTANA 59715
OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

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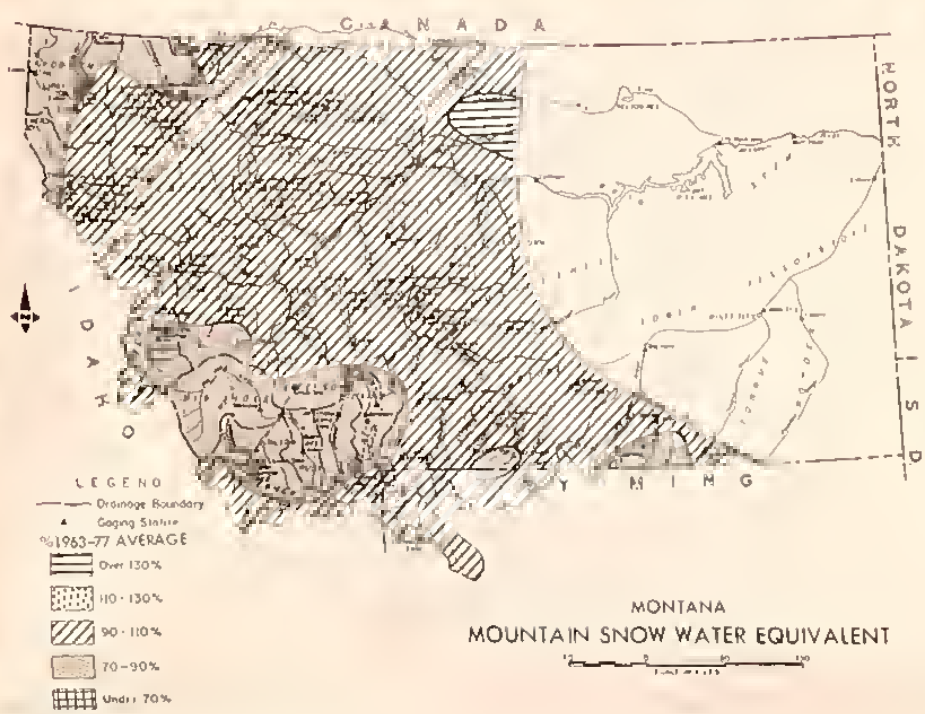
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STREAMFLOW FORECASTS

Streamflow for April through September should be 5 to 15 percent below average for most drainages. The only areas where above average runoff is expected are those with headwaters in the Bear Paw and Little Rocky Mountains. Below average runoff is forecast for most streams in the Kootenai and North Fork Flathead River drainages and on smaller streams in the Upper Clark Fork drainage. East of the divide low runoff is expected on most of the streams in the Missouri River headwaters above Canyon Ferry Reservoir.

In the Yellowstone River drainage most streams will have runoff 5 to 10 percent below average. Runoff in the Little Bighorn River and West Fork of Rock Creek drainages is forecast to be somewhat lower than other streams in the Yellowstone drainage.

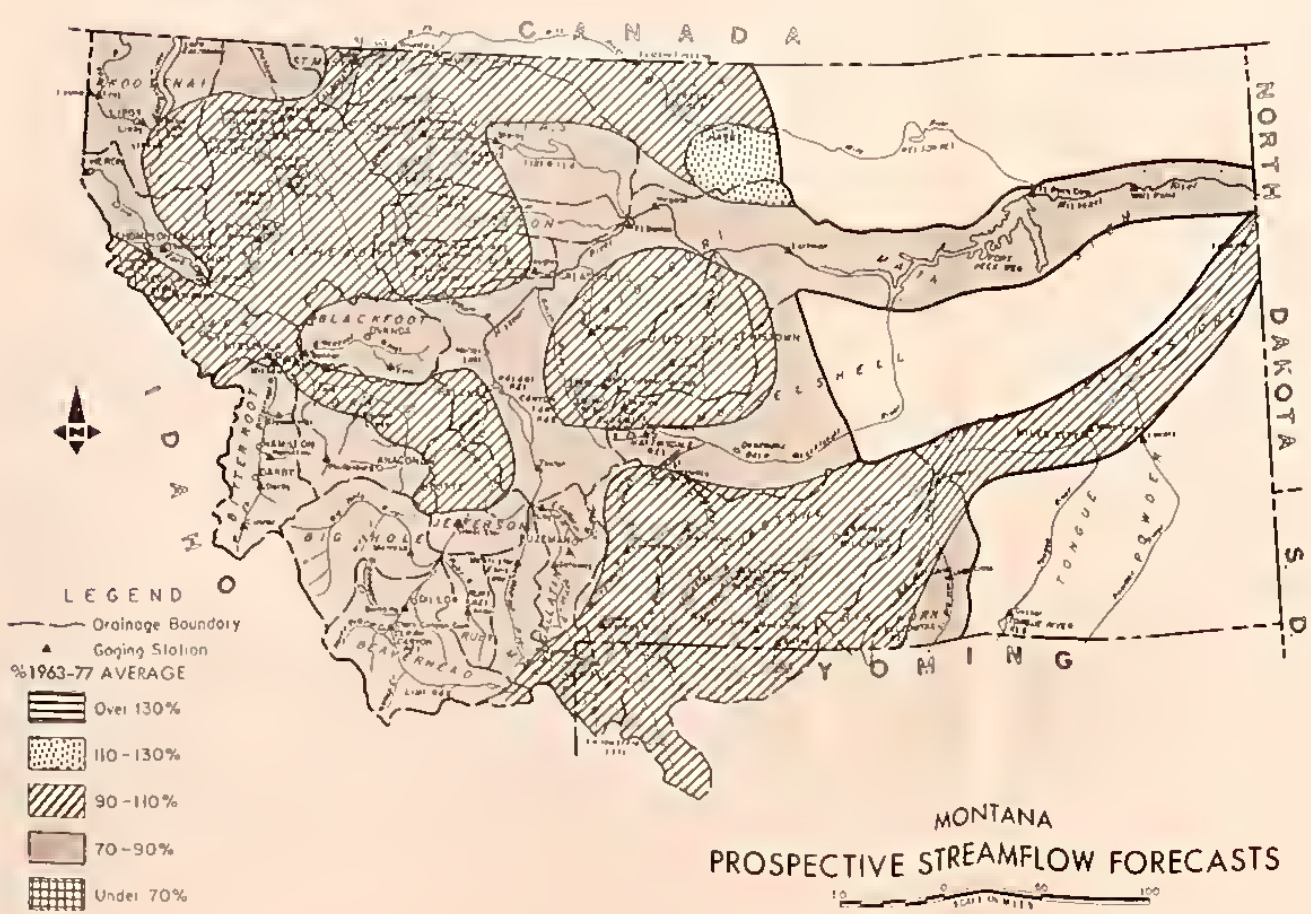
Most areas should have average or above average runoff early in the season with some shortages of irrigation water expected later in the season.

MOUNTAIN SNOWPACK

Snowfall during March was below average in most mountain watersheds. Some melt has occurred in lower elevations. In general, the amount of water stored in the snowpack is in the 90 to 100 percent of average range. The Bear Paw and Little Rocky Mountains still show above average snowpack. Areas with below average snow cover west of the divide include most of the Kootenai River drainage, North Fork Flathead River headwaters, and Lower Clark Fork River drainage. Some portions of the Bitterroot and Upper Clark Fork River drainages also show below average snowpack.

Deficient areas east of the Continental Divide include most of the Missouri River headwaters. In the Yellowstone River drainage, the Little Bighorn River headwaters and the West Fork of Rock Creek near Red Lodge show below average snow.

Snow from most valley areas has melted with the water going into the soil.



Columbia River Drainage

BASIN - STREAM MILE FORECAST POINT	THIS YEAR		1963-1977		THIS YEAR		PAST RECORD		THIS YEAR		PAST RECORD	
	Forecast	Actual	Forecast	Actual	Forecast	Actual	Forecast	Actual	Forecast	Actual	Forecast	Actual
Average based on 1963-1977 period.	April - September		April - July		April - June							
KOOTENAI RIVER below Libby Dam	5750	79	6882	7,279	4920	79	5749	6,219				
FISHER RIVER near Libby	255	94		270	240	95		253				
YAKA RIVER near Troy	420	78		538	395	77		514				
KOOTENAI RIVER at Leona (1)	6950	78	8436	8,883	6060	78	7207	7,727	4850	79	5618	6,150
INFLOW MOUTON RESERVOIR near Butte (Million Gallons)	39.0	77	33.7	50.7	32.0	78	23.8	41.2	195	75	251	260
WARM SPRINGS CREEK AT HEYERS DAM near Anaconda (2)	14.6	79	18.5	18.5	12.2	79	15.0	15.4				
FLINT CREEK near Southern Cross (3)	61.0	79		77.6	48.0	78		61.3				
INFLOW LOWER WILLOW CREEK RESERVOIR near Hall (5)	13.2	78	13.7	16.9	12.5	78	12.8	16.0				
MIDDLE FORK ROCK CREEK near Phillipsburg	63.0	80		70.0	56.5	79		71.1				
HEVADA CREEK near Finn	20.8	88		23.6	19.3	88		21.8				
BLACKFOOT CREEK near Bonner	900	88		1,017	800	87		920	690	87		794
CLARK FORK RIVER above Milltown (6)	830	98		843	725	99		730	620	101		613
CLARK FORK RIVER above Missoula	1730	93	1914	1,859	1525	92	1670	1,651	1310	93	1360	1,408
WEST FORK BITTERROOT RIVER near Conner (7)	158	84		187	145	84		172				
BITTERROOT RIVER near Darby	530	88	707	602	490	89	647	552	430	90	545	480
SKALAWO CREEK near Hamilton	50.0	87		57.4	43.5	87		49.8				
BURRIT CREEK near Stevensville	33.5	86	35.5	38.8	29.2	87	29.2	33.6				
BITTERROOT RIVER at Missoula (9)	1340	87		1,543	1240	88		1,416	1070	88		1,211
CLARK FORK RIVER below Missoula	3070	90		3,405	2765	90		3,069	2380	91		2,618
CLARK FORK RIVER at St. Regis (HWS)	4060	90	4710	4,521	3660	90	4219	4,078	3140	90	3468	3,492
NORTH FORK FLATHEAD RIVER near Columbia Falls	1500	76		1,969	1360	76		1,782	1170	78		1,498
MIDDLE FORK FLATHEAD RIVER near West Glacier	1830	96	1935	1,911	1690	97	1711	1,750	1440	98	1402	1,470
SOUTH FORK FLATHEAD RIVER near Columbia Falls	2220	96	2367	2,302	2080	96	2205	2,159	1830	97	1872	1,884
FLATHEAD RIVER at Columbia Falls (10)	5700	90	6299	6,330	5300	91	5666	5,827	4550	92	4721	4,964
SWAN RIVER near Big Fork	615	90		681	545	91		596				
FLATHEAD RIVER near Polson (11)	6650	90	7588	7,394	6145	90	6764	6,806	5250	91	5581	5,779
CLARK FORK RIVER near Plains (11) (HWS)	10600	86	12872	12,340	9650	86	11505	11,222	8180	86	9424	9,507
THOMPSON RIVER near Thompson Falls	242	92		263	218	93		234				
PROSPECT CREEK at Thompson Falls	132	92		143	122	92		133				
CLARK FORK RIVER at Whitehorse Rapids	12100	86		13,781	11000	86		12,519	9150	86		10,633

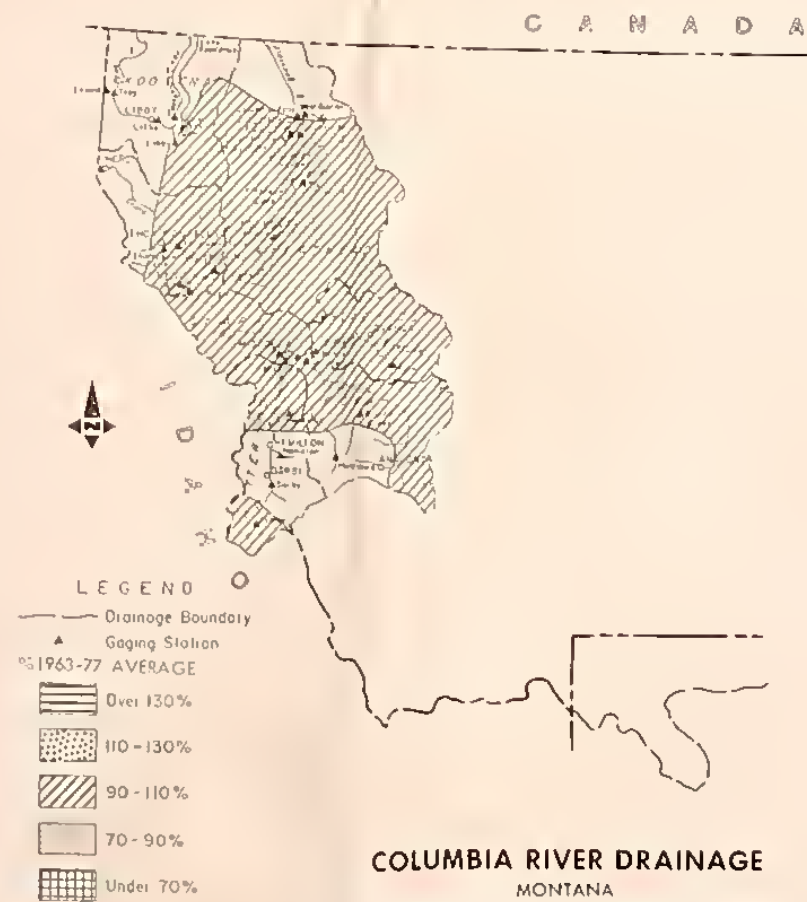
- Adjusted for storage in Lake Kootenai.
- Adjusted for storage in Silver Lake, diversions to and pumping from Georgetown Lake.
- Adjusted for storage in Georgetown Lake, diversions from and pumping.
- Sum Flint Creek at Maxville and Boulder Creek at Maxville.
- Sum of North Fork Lower Willow Creek near Hall and South Fork Lower Willow Creek near Hall.
- Difference in observed flow Clark Fork above Missoula and Blackfoot near Bonner.
- Adjusted for storage in Painted Rocks Reservoir.
- Adjusted for diversion into Sunset Highline Canal.
- Difference in observed flow Clark Fork above and below Missoula.
- Adjusted for storage in Hungry Horse Reservoir.
- Adjusted for storage in Hungry Horse Reservoir and Flathead Lake.
- Adjusted for storage in Hungry Horse Reservoir, Flathead Lake and Moxon Rapids Reservoir.
- National Weather Service forecast.

SUMMARY OF SNOW MEASUREMENTS

RIVER BASIN	Number of Gauging Stations	THIS YEAR'S SNOW WATER AS PERCENT OF
SUBWATERSHED		1963-77 AVERAGE
Kootenai/BC	20	93
Kootenai/Montana	16	97
Kootenai	36	96
Little Bitterroot	5	127
Flathead	32	97
Clark Fork above		
Blackfoot	32	110
Blackfoot	17	109
Clark Fork above		
Missoula	49	110
Bitleroot	13	94
Lower Clark Fork		
below Missoula	13	107
Clark Fork (Total		
w/o Flathead)	75	105
Pend O'Reille		
(Clark Fork &		
Flathead)	107	102
Columbia (Pend		
O'Reille &		
Kootenai)	143	101

MOUNTAIN SNOWPACK

Snowfall during March was below average in all drainages with some melt occurring in lower elevation watersheds. Most of the Kootenai River drainage snowpack remains below average. Areas that also have below average snowpack are the North Fork Flathead and portions of the Bitterroot and Upper Clark Fork River drainages. In most other areas the water content of the snowpack is in the 90 to 100 percent of average range. Almost all of the snow-melt has gone into the soil with very little runoff occurring so far.

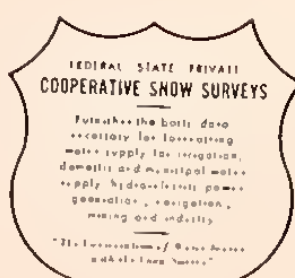


WATER SUPPLY OUTLOOK

STREAM-AREA	Soil Sat.	Water Supply
Tobacco	Fair	Poor
Little Bitterroot	Ex	Avg
Mission Valley	Avg	Avg
Flint Creek	Avg	Fair
Upper Clark Fork	Avg	Fair
Nevada Creek	Avg	Avg
Blackfoot	Avg	Fair
West-side Bitterroot	Avg	Fair
East-side Bitterroot	Avg	Fair
Bitterroot River	Avg	Fair
Lower Clark Fork	Avg	Fair

STREAMFLOW FORECASTS

Forecasts of spring and summer runoff are generally about 5 percent less than forecasts issued last month. This reflects below average snowfall during March. Most streams in the Kootenai River drainage, the North Fork Flathead River drainage and small tributaries in the Upper Clark Fork River are forecast to have runoff about 20 percent below average. Near average runoff is expected on the Upper Clark Fork River, but streamflow on almost all other streams should be 10 to 15 percent below average. Early season runoff is still expected to be quite large with some shortages of irrigation water expected by mid- to late summer.



SNOW SURVEY DATA

AMBROSE	6400	3/27	42	13.6	12.0	14.4	HIGHWOOD STATION	4600	3/29	21	6.0	3.9	4.6
ARCH FALLS	7350	3/29	39	11.4	12.9	14.4	HIGH MEADOW	6600	3/29	34	9.8	10.4	12.4
BALO RIDGE	7500	3/27	47	14.5	14.9	14.6	HOODOWN BASIN	6000	4/03	130	46.1	47.7	53.6
BANFIELD MOUNTAIN	5600	3/29	55	19.5	18.6	25.0	HOODOWN BASIN PILLOW	6000	3/31	SP	41.0	49.0	51.9
BANFIELD MOUNTAIN PILLOW	5600	3/29	SP	16.1	16.5	22.5	HOODOWN CREEK	5900	4/03	128	45.1	43.3	49.9
BARRE CREEK	5500	3/30	105	41.9	40.6	50.3	HOODOWN CREEK	7850	4/01	60	18.4	10.9	28.3
BARRE MIDWAY	4600	3/30	94	35.7	30.6	38.8	HOODOWN CREEK	6450	3/31	33	8.7	5.6	9.4
BARRE TRAIL	3800	3/29	26	7.9	5.8	9.8	HOODOWN CREEK	6310	3/31	34	19.9	18.2	17.2
BARKER LAKES	8250	4/04	51	14.8	-	-	HOODOWN CREEK	7500	3/28	29	8.2	8.2	6.5
BASIN CREEK	7180	3/28	41	9.0	5.7	8.4	HOODOWN CREEK	7200	3/29	38	11.2	11.2	10.5
BASSOON PEAK	5150	3/30	42	12.9	8.6	11.5	HOODOWN CREEK	6450	4/02	30	8.3	9.6	7.1
BATTLE RIDGE	6020	3/26	28	9.6	7.7	7.9	HOODOWN CREEK	4550	3/30	20	6.4	6.8	2.4
BEAGLE SPRINGS	8850	4/01	35	9.1	8.7	-	HOODOWN CREEK	4150	3/30	16	6.0	5.5	1.9
BEAR BASIN	8150	3/27	51	17.2	25.9	23.3	HOODOWN CREEK	7500	3/28	49	14.2	17.3	15.8
BEAR PAW SKI AREA	5200	3/28	42	13.8	-	7.3	HOODOWN CREEK	3890	3/29	24	3.4	5.6	8.2
BERRY MEADOW	7000	3/26	29	7.8	9.2	8.4	HOODOWN CREEK	3720	3/28	6	6.6	3.0	1.6
BIG CREEK	6750	3/27	104	38.8	49.7	47.6	HOODOWN CREEK	7850	4/02	39	10.5	11.8	10.1
BIG SKY	7700	3/28	47	13.7	17.6	17.3	HOODOWN CREEK	6100	3/30	31	8.6	7.2	9.4
BIG SKY MEADOW	6350	3/27	33	9.7	10.2	10.0	HOODOWN CREEK	6930	3/30	47	13.6	10.2	13.8
BIG SNOWY	7150	3/29	69	24.4	28.6	24.1	HOODOWN CREEK	7400	3/30	43	12.3	9.2	12.1
BIG SPRINGS (10)	6500	3/30	59	21.0	22.6	22.0	HOODOWN CREEK	7650	3/29	88	34.6	-	34.8
BLACK BEAR	7950	3/29	107	39.8	44.6	44.1	HOODOWN CREEK	7480	4/01	37	10.0	11.0	9.9
BLACK BEAR PILLOW	7590	3/29	SP	36.1	43.4	40.0	HOODOWN CREEK	8100	4/01	41	10.6	12.9	10.9
BLACK CANYON (10)	7850	3/29	96	35.6	-	35.4	HOODOWN CREEK	8100	4/01	SP	11.6	13.3	11.0
BLACK MOOSE (10)	8120	3/29	97	39.6	-	40.3	HOODOWN CREEK	6860	3/29	37	10.9	9.3	11.3
BLACK MOUNTAIN	7750	3/28	54	15.3	15.6	-	HOODOWN CREEK	6660	3/29	SP	10.2	6.3	11.1
BLACK PINE	7100	3/30	46	13.1	14.0	15.5	HOODOWN CREEK	7400	3/27	44	13.6	20.0	17.6
BLACK PINE PILLOW	7100	3/30	SP	13.9	15.6	16.0	HOODOWN CREEK	4300	3/28	31	8.2	6.8	7.7
BLOODY OICK	7600	3/29	46	13.8	15.2	14.8	HOODOWN CREEK	5230	3/29	83	32.5	28.4	32.6
BLOODY OICK PILLOW	7600	3/29	SP	12.3	13.9	-	HOODOWN CREEK	5230	3/30	SP	24.7	-	-
BOIS SOTS	8000	3/30	32	7.0	5.3	9.1	HOODOWN CREEK	8800	3/28	57	19.2	24.9	24.6
BOULDER MOUNTAIN	7950	3/26	60	20.5	24.2	20.7	HOODOWN CREEK	5250	3/30	84	32.4	32.2	37.1
BOULDER MOUNTAIN PILLOW	7950	3/26	SP	20.6	23.6	-	HOODOWN CREEK	5940	3/28	80	30.9	36.4	35.2
BOX RIVER #1 (AL)	5100	3/27	28	7.5	7.8	9.0	HOODOWN CREEK	4800	3/29	90	13.2	11.4	16.8
BOX CANYON	6670	4/01	45	13.4	12.7	14.2	HOODOWN CREEK	7900	3/27	60	19.6	22.1	22.8
BRANHAM LAKES	8850	4/02	73	26.2	32.0	31.9	HOODOWN CREEK	4200	3/28	19	4.4	1.4	6.5
BRIDGE BOWL	7250	3/30	69	25.9	32.0	30.2	HOODOWN CREEK	5450	3/28	SP	5.3	-	6.4
BRIDGE BOWL PILLOW	7250	3/30	SP	23.4	31.3	29.5	HOODOWN CREEK	5450	3/28	26	7.9	3.8	7.8
BRISTOW CREEK	3900	3/29	22	8.3	5.9	12.6	HOODOWN CREEK	4650	3/28	8	2.0	4.0	2.9
BRUSH CREEK TIMBER	5000	3/28	35	10.5	8.8	10.6	HOODOWN CREEK	4040	3/28	11	3.2	3.3	2.9
BULL MOUNTAIN	6600	3/30	32	9.2	3.9	6.7	HOODOWN CREEK	4200	3/28	12	3.9	4.0	3.7
CABIN CREEK	5200	3/29	32	8.9	6.2	7.2	HOODOWN CREEK	7300	3/30	41	11.4	10.0	11.1
CALL ROAD	8050	4/01	44	12.4	13.6	13.1	HOODOWN CREEK	7750	3/29	70	23.6	25.8	23.9
CALVERT CREEK	6450	3/30	36	10.8	14.5	13.2	HOODOWN CREEK	7750	3/29	SP	25.5	25.5	24.8
CALVERT CREEK PILLOW	6450	3/30	SP	7.9	10.3	9.8	HOODOWN CREEK	4960	4/01	68	19.9	16.3	-
CAMP CREEK (10)	6800	3/29	35	9.4	8.3	12.0	HOODOWN CREEK	4960	4/01	SP	16.5	-	-
CAMP MISERY	6400	3/26	108	42.8	51.4	52.0	HOODOWN CREEK	5250	3/28	53	17.5	14.2	19.2
CAMP SENIA	7890	3/30	29	5.4	4.9	7.7	HOODOWN CREEK	6210	3/30	48	17.0	23.8	17.3
CANYON (WY)	7750	4/01	54	16.4	18.2	16.9	HOODOWN CREEK	6210	3/30	SP	12.4	14.6	12.6
CARROT BASIN	9000	3/29	91	33.6	36.0	39.5	HOODOWN CREEK	7850	4/02	45	14.3	19.0	18.2
CARTER CREEK	7400	4/02	28	7.0	3.4	6.6	HOODOWN CREEK	7500	3/31	48	14.2	13.7	14.0
CHATEAU LAWN #8 (AL)	5700	3/27	37	10.2	8.5	11.4	HOODOWN CREEK	4000	3/30	51	17.0	14.0	19.4
CHESSMAN RESERVOIR	6200	3/30	30	8.0	3.4	4.2	HOODOWN CREEK	6600	3/28	34	9.2	9.6	12.4
CHICKEN CREEK	4060	3/27	32	13.6	13.0	-	HOODOWN CREEK	5050	3/30	32	9.4	9.5	2.9
CLOVER MEADOW	8600	4/01	51	14.4	18.8	19.7	HOODOWN CREEK	8800	4/01	81	25.1	28.5	29.1
COLE CREEK	7850	3/29	62	18.8	10.8	19.6	HOODOWN CREEK	6200	3/30	43	15.8	18.4	17.1
COLE CREEK PILLOW	7850	3/29	SP	17.2	10.6	19.4	HOODOWN CREEK	6850	3/26	26	5.5	5.2	-
COLLEY CREEK	6300	3/31	33	9.1	9.6	9.8	HOODOWN CREEK	6400	4/02	76	24.6	24.4	23.9
COMBINATION	5600	3/30	28	7.6	5.2	6.5	HOODOWN CREEK	6400	4/02	SP	23.6	23.4	21.0
COMBINATION PILLOW	5600	3/30	SP	7.5	3.2	6.6	HOODOWN CREEK	7650	3/30	56	18.6	25.1	22.4
COOKE STATION	8150	3/30	73	21.2	27.6	21.3	HOODOWN CREEK	6900	3/26	44	14.2	15.0	17.3
COPPER BOTTOM	5200	3/28	42	12.9	7.4	11.9	HOODOWN CREEK	5600	3/29	76	26.9	31.2	-
COPPER BOTTOM PILLOW	5200	3/28	SP	15.8	11.6	14.8	HOODOWN CREEK	6900	3/30	27	7.3	3.4	7.7
COPPER CAMP	6950	3/28	84	28.8	29.8	34.2	HOODOWN CREEK	6040	3/26	103	39.1	49.1	48.3
COPPER CREEK	5700	3/28	54	16.9	10.9	16.1	HOODOWN CREEK	6040	3/26	SP	39.8	42.2	41.2
COPPER LAKE CREEK	6100	3/28	70	24.5	23.0	26.3	HOODOWN CREEK	3600	3/26	11	3.9	2.6	4.3
COPPER MOUNTAIN	7700	4/04	41	11.7	10.8	12.2	HOODOWN CREEK	7500	4/01	41	11.3	11.9	11.8
COTTONWOOD CREEK	6400	3/27	36	10.2	7.0	9.0	HOODOWN CREEK	6250	3/28	42	14.4	12.0	13.9
COYOTE HILL	4200	3/26	28	9.7	9.3	10.7	HOODOWN CREEK	6250	3/28	SP	13.6	14.5	14.4
CREVICE MOUNTAIN	8400	3/29	43	12.4	15.5	11.5	HOODOWN CREEK	7500	3/27	37	9.7	7.1	9.4
CRYSTAL LAKE	6100	3/29	41	13.7	17.7	15.7	HOODOWN CREEK	7400	4/01	37	10.1	11.8	10.4
CRYSTAL LAKE PILLOW	6100	3/29	SP	12.4	-	-	HOODOWN CREEK	7400	4/01	SP	11.4	11.4	9.8
DAO CREEK LAKE	8400	4/01	45	11.4	12.1	15.8	HOODOWN CREEK	8500	4/01	46	13.2	17.4	17.5
DAISY PEAK	7600	4/02	51	14.2	14.0	12.0	HOODOWN CREEK	7360	3/30	50	16.6	14.1	-
DALY CREEK	5780	3/27	36	12.2	10.1	13.1	HOODOWN CREEK	7150	4/01	62	20.6	20.6	21.1
DEADMAN CREEK	6450	3/28	41	12.2	15.6	12.6	HOODOWN CREEK	8250	3/30	80	27.6	35.2	33.1
DEADMAN CREEK PILLOW	6450	3/28	SP	11.0	13.3	11.1	HOODOWN CREEK	7200	3/30	35	9.6	9.4	11.5
DESERT MOUNTAIN	5600	3/27	51	15.3	13.1	17.3	HOODOWN CREEK	7200	3/30	SP	9.2	9.0	12.0
DEVILS SLIDE	8100	3/29	59	19.3	23.8	24.6	HOODOWN CREEK	9450	4/05	70	23.5	25.0	28.5
DISCOVERY BASIN	7050	3/29	35	10.3	9.5	11.9	HOODOWN CREEK	7250	4/02	56	18.5	10.1	13.3
DIVIDE	7800	4/01	38	10.8	12.2	12.2	HOODOWN CREEK	8100	4/02	68	21.1	19.1	23.1
DIVIDE PILLOW	7800	4/01	SP	10.0	12.4	12.8	HOODOWN CREEK	6650	3/26	39	12.7	-	-
DIX HILL	6400	4/01	34	11.2	7.7	10.4	HOODOWN CREEK	6650	3/26	SP	13.3	15.3	-
EAGLE CREEK	7000	3/26	52	16.5	18.2	16.1	HOODOWN CREEK	6200	3/31	21	5.2	4.2	4.9
EAST BOULDER S	9250	4/05	96	30.0	36.5	33.6	HOODOWN CREEK	7200	4/04	32	7.7	4.0	6.2
EL OORADO MINE	7800	3/27	72	23.7	23.6	23.8	HOODOWN CREEK	5300	3/27	31	7.8	6.9	8.5
ELK PEAK	8000	3/29	58	18.2	22.5	18.7	HOODOWN CREEK	8800	4/05	65	21.5	21.0	23.4
EMERY CREEK	4350	3/27	99	16.4	11.3	17.1	HOODOWN CREEK	5100	4/01	SP	38.5	29.2	34.3
EMERY CREEK PILLOW	4350	3/27	SP	15.2	11.4	-	HOODOWN CREEK	6500	3/27	35	4.3	10.1	8.0
FATTY CREEK	5500	3/27	73	25.9	30.3	25.1	HOODOWN CREEK	6500	3/27	SP	8.9	8.6	-
FISH CREEK	8000	3/28	42	9.4	7.2	9.8	HOODOWN CREEK	7150	4/02	47	15.9	17.1	15.9
FISHER CREEK	9100	3/30	109	36.0	43.7	41.3	HOODOWN CREEK	6000	3/30	48	14.2	17.2	20.6
FISHER CREEK PILLOW	9100	3/30	SP	35.0	40.1	38.7	HOODOWN CREEK	5260	3/29	60	19.7	26.4	-
FIVE SPRINGS FALLS (WY)	7500	3/30	24	5.7	8.7	8.4	HOODOWN CREEK	5600	3/29	38	12.1	13.9	11.0
FLEECER RIDGE	7500	3/30	45	12.8	12.8	12.2	HOODOWN CREEK	8160	3/30	63	20.0	25.7	24.8
FOREST LAKE	6400	3/26	46	13.9	15.4	12.3	HOODOWN CREEK	8000	3/26	51	15.2	16.7	16.5
FOUR MILE	6900	3/27	34	10.3	7.6	9.3	HOODOWN CREEK	8000	3/26	SP	14.7	16.7	16.2
FOURTH OF JULY	3450	3/29	33	8.5	8.9	-	HOODOWN CREEK	4700	3/28	27	7.6	7.0	4.0
FRED BURR PASS	8000	4/02	74	23.8	26								

STRYKER BASIN	6100	2/27	75	25.6	32.4	-
STUART MILL	6500	3/31	27	8.1	.0	7.9
SUCKER CREEK	3960	3/28	6	.4	.0	.5
SYLVAN PASS (WY)	7350	2/27	35	10.5	7.6	10.7
TARGHEE PASS (ID)	7100	4/01	38	11.6	15.2	14.5
TAYLOR ROAD	4080	3/30	59	16.6	15.4	17.1
TEN MILE LOWER	6600	3/28	19	4.2	6.8	3.1
TEN MILE MIDDLE	6800	3/29	38	10.1	6.6	8.2
TEN MILE UPPER	8000	3/29	54	14.1	12.6	13.2
TEPEE CREEK	8000	3/30	52	15.1	15.8	15.4
TEPEE CREEK PILLON	8000	3/30	53	15.5	18.2	16.7
THORN DIVIDE (WY)	7900	3/28	71	20.3	20.0	22.1
TIMBERLINE CREEK	8850	3/30	50	12.6	9.8	16.6
TRAIL CREEK	7090	4/01	37	9.4	9.8	9.5
TWELVEMILE CREEK	5600	3/28	52	23.8	19.0	23.4
TWELVEMILE CREEK PILLON	5600	3/28	52	23.8	19.0	23.4
TWENTY-ONE MILE	7150	3/31	54	18.7	20.5	19.6
TWIN LAKES	6510	3/28	97	38.4	48.4	43.5
TWIN LAKES PILLON	6400	3/28	97	38.4	48.4	43.5
VALLEY VIEW (ID)	6500	3/30	63	19.5	15.0	18.4
WALDRON	5600	4/02	37	11.6	10.6	11.1
WALDRON PILLON	5600	4/02	37	11.6	10.6	11.1
WARM SPRINGS	8250	4/02	62	18.2	20.3	-
WARM SPRINGS PILLON	8250	4/02	62	18.2	20.3	-
WEASEL DIVIDE	5450	3/30	67	23.1	32.2	37.2
WEST YELLOWSTONE	6700	3/31	42	14.3	14.4	12.8
WHISKEY CREEK	6800	3/29	66	23.7	26.0	21.8
WHISKEY CREEK PILLON	6800	3/29	66	23.7	26.0	21.8
WHITE ELEPHANT (ID)	7700	3/30	83	24.4	30.0	25.6
WHITE MILL	8700	3/30	91	28.5	34.2	29.7
WHITE MILL PILLON	8700	3/30	91	28.5	34.2	29.7
WHITE PINE RIDGE	8850	4/01	28	6.0	3.6	5.9
WILLOW CREEK	6500	3/29	39	11.0	5.9	10.8
WOLVERINE (WY)	7650	3/29	47	16.6	16.8	13.6
WRONG CREEK	5700	3/29	51	15.5	13.3	15.4
WRONG RIDGE	6800	3/29	65	20.7	20.9	21.5

LATE ARRIVING DATA

SNOW			THIS YEAR		PAST RECORD	
	DRAINAGE BASIN and/or SNOW COURSE		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)
	NAME	Elevation			Last Year	Average
ABUNDANCE LAKE	8800	4/06	58	20.4	23.8	22.5
BALO EAGLE PEAK	5700	4/04	137	52.6	52.1	64.7
BEAR MOUNTAIN, ID	5400	4/03	115	45.7	47.1	64.2
CEDAR GROVE	4100	4/04	45	15.2	11.7	14.2
DARKHORSE LAKE	8600	4/06	71	26.9	32.5	30.1
DAVIS CREEK	5400	4/02	47	15.7	22.5	27.1
EAST FORK R.S.	5400	4/06	16	5.4	2.8	6.7
ELK HORN SPRINGS	7800	4/06	32	10.0	13.8	10.1
FOOLHEN	8280	4/06	53	16.2	17.4	19.1
GARVER CREEK	4250	4/02	21	6.3	9.8	12.0
HALVERSON CREEK, ID	4850	4/03	91	35.0	40.8	42.2
HAWKINS LAKE	6450	4/02	65	20.8	28.7	34.2
KEELER CREEK	3300	4/03	27	10.0	5.9	11.5
KILGORE, ID	6200	3/29	35	12.4	13.8	11.5
KIT CARSON, ID	5020	4/06	22	9.6	6.2	9.1
NEZ PERCE CAMP	5580	4/06	42	17.6	16.9	16.3
NEZ PERCE CAMP PILLON	5580	4/06	52	16.2	18.1	-
NEZ PERCE PASS	6570	4/06	45	18.6	19.2	19.0
NORTH FORK JOCKO	6330	4/06	121	47.2	50.5	48.4
PODRMAN CREEK	5100	4/04	86	35.3	31.6	38.0
SKALKAKO SUMMIT	7260	4/06	74	26.3	27.6	28.4
SKALKAKO SUMMIT PILLON	7260	4/06	52	24.3	27.8	-
SLAG-A-MELT LAKES	8750	4/06	64	23.0	30.8	28.7
STUART MOUNTAIN	7400	4/06	87	33.0	37.2	34.6
TV MOUNTAIN	6800	4/06	64	20.7	20.9	20.7
WEST YELLOWSTONE PILLON	6700	3/31	52	11.9	9.0	9.4
April 6, 1979						
FIVE-BULL	5700	4/06	28	9.2	6.0	7.6
HOLBROOK	4530	4/06	32	10.8	7.3	10.7
TRINKUS LAKE	6100	4/06	109	43.0	44.0	46.3
UPPER HOLLAND LAKE	6200	4/06	99	36.4	38.0	38.6
April 8, 1979						
BADGER PASS	6900	4/08	106	41.9	34.7	41.7
BEAVER LAKE	5900	4/08	68	25.1	21.5	25.8
BLUE LAKE	5900	4/08	70	28.0	23.0	28.0
FREIGHT CREEK	6000	4/08	50	17.6	15.0	17.2
GUNLIGHT LAKE	6300	4/08	110	41.7	41.8	42.7
SPOTTED BEAR MOUNTAIN	7000	4/08	50	17.7	14.4	16.3
TWIN CREEKS	3580	4/08	32	12.7	9.5	12.1

Average based on 1963-77 period. A - Aerial observation; water content estimated. SP - Snow Pillow observation; water content only. *Estimated from SNOTEL.



Most mountain areas are still snow covered. With warmer weather, the exposed areas will lose their snow cover first. The snow in shaded areas and under trees will last into June and July.

RESERVOIR STORAGE (Thousand Acre Feet) END OF MONTH March

Basin or Stream	RESERVOIR	March	1979	1978	Average
COLUMBIA					
Kootenai	Kootenai	5,694.0	2,299.0	1,567.0	-
Flathead	Hungry Horse	3,428.0	2,187.0	1,605.0	2,157.0
	Flathead Lake	1,791.0	664.7	695.5	794.5
	Camas (4)	45.2	21.1	8.8	27.1
	Mission Valley (8)	100.3	61.9	51.6	38.1
Clark Fork	Georgetown Lake	31.0	25.0	23.4	23.8
	Lower Willow Creek	4.9	.7	2.7	1.4
	Nevada Creek	12.6	5.8	7.5	7.6
	Noxon Rapids	344.6	320.8	255.0	198.5
Bitterroot	Painted Rocks	31.7	12.8	5.3	20.2
	Como	34.9	-	14.0	15.8
MISSOURI					
Beaverhead	Lima	84.0	32.0	-	33.8
	Clark Canyon	328.9	163.3	169.4	145.6
Ruby	Ruby	38.8	-	-	30.6
Madison	Hebgen Lake	377.5	223.3	195.1	206.3
	Ennis Lake	41.0	34.6	35.8	36.3
Gallatin	Middle Creek	8.0	3.7	4.2	3.9
Missouri	Canyon Ferry	2,043.0	1,403.0	1,449.0	1,561.0
	Hauser & Helena	61.9	63.0	63.0	54.2
	Lake Helena	10.4	10.9	10.9	8.3
	Holter Lake	81.9	80.1	80.8	57.9
	Fort Peck Lake	18,910.0	17,980.0	15,660.0	13,310.0
Smith	Smith River	10.6	-	-	7.1
	Newlan Creek	12.4	9.6	4.4	-
Musselshell	Bair	7.0	-	-	5.4
	Martinsdale	23.1	-	-	7.8
	Deadman's Basin	72.2	-	-	49.5
Sun	Gibson	99.0	65.3	33.6	43.6
	Willow Creek	32.2	26.9	18.3	21.0
	Pishkun	32.0	19.6	18.6	17.2
Marias	Lower Two Medicine	11.9	-	-	-
	Four Horns	19.2	-	-	-
	Swift	30.0	22.0	12.1	19.7
	Lake Frances	111.9	94.2	33.0	79.3
Milk	Elwell (Tiber)	1,347.0	580.2	619.0	598.9
	Beaver Creek	3.5	2.2	1.5	-
	Fresno	127.2	129.5	140.7	86.5
	Nelson	66.8	45.2	9.5	40.7
HUDSON BAY					
St. Mary's	Lake Sherburne	66.2	16.0	32.6	24.7
YELLOWSTONE					
Stillwater	Mystic Lake	21.0	8.2	.1	4.7
Clark's Fork	Cooney	27.4	12.5	16.1	15.6
Tongue	Tongue River	68.0	27.2	32.2	38.4
Bighorn	Bighorn Lake	1,356.0	887.3	773.8	796.2

Average based on 1958-72 period.

PERCENT OF THE MISSOURI RIVER DRAINAGE ABOVE CANYON FERRY THAT HAS SNOW COVER

DATE	PERCENT SNOW COVER	DATE	PERCENT SNOW COVER
November 1, 1978	9	February 4, 1979	100
November 14, 1978	98	February 20, 1979	98
December 6, 1978	100	February 27, 1979	96
December 10, 1978	100	March 2, 1979	100
December 19, 1978	100	March 8, 1979	95
January 1, 1979	100	March 11, 1979	85
January 8, 1979	100	March 14, 1979	76
January 14, 1979	100	March 20, 1979	82
January 23, 1979	100	March 24, 1979	76
January 29, 1979	100	April 5, 1979	64

SATELLITE SNOW COVER



MISSOURI RIVER BASIN Above Canyon Ferry Dam

Scale 1:2,500,000

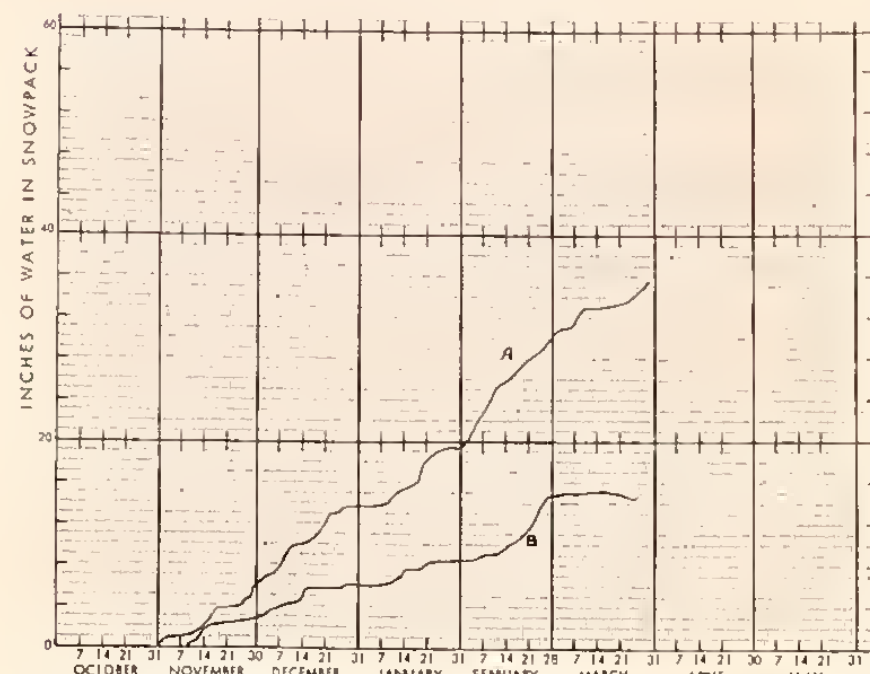
DATA PROVIDED BY NOAA/NESS

SNOW SURVEY DATA

SNOW PILLOW RECORDS

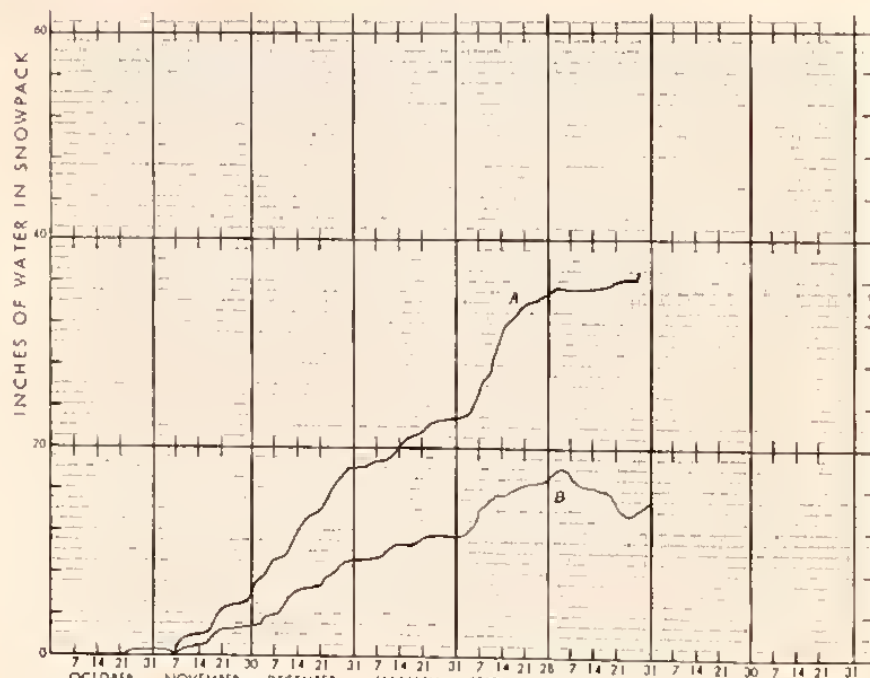
Snow pillows are butyl or metal containers that are placed on the ground and used to determine the amount of water in the snowpack without disturbing the snow. Continuous records of snow accumulation and melt can be obtained with on-site recorders or by radio telemetry such as SNOTEL. These graphs show water equivalent for this season's snowpack. You will note that the snow began accumulating in late October or early November at most locations. Many areas had earlier snowfall that melted.

The graphs also show the large increase that occurred in February over most of Montana and the small amount of mountain snowfall during March. Some melt also occurred at the lower elevation sites. As the season progresses, the maximum water content of the snowpack and the date that it occurred, the melt rate and day of melt-out can be determined from these snow pillow records.



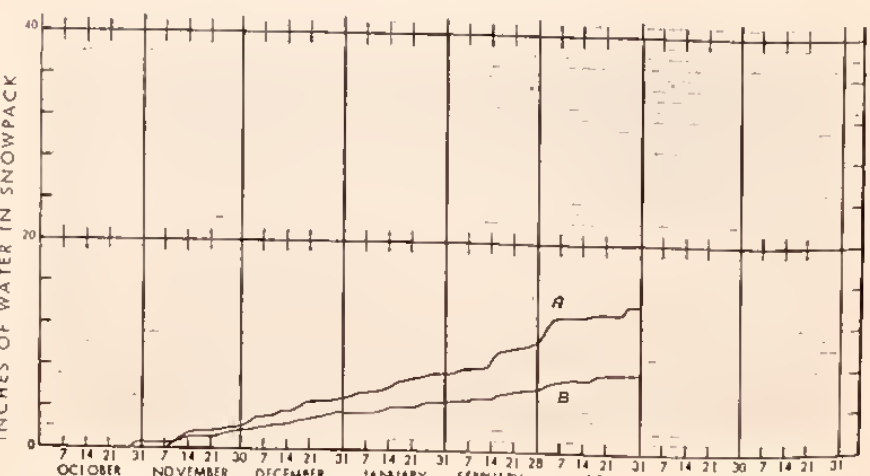
SWAN & FLATHEAD RANGES

A Noisy Basin, elevation 6,150 ft.
B Emery Creek, elevation 4,350 ft.



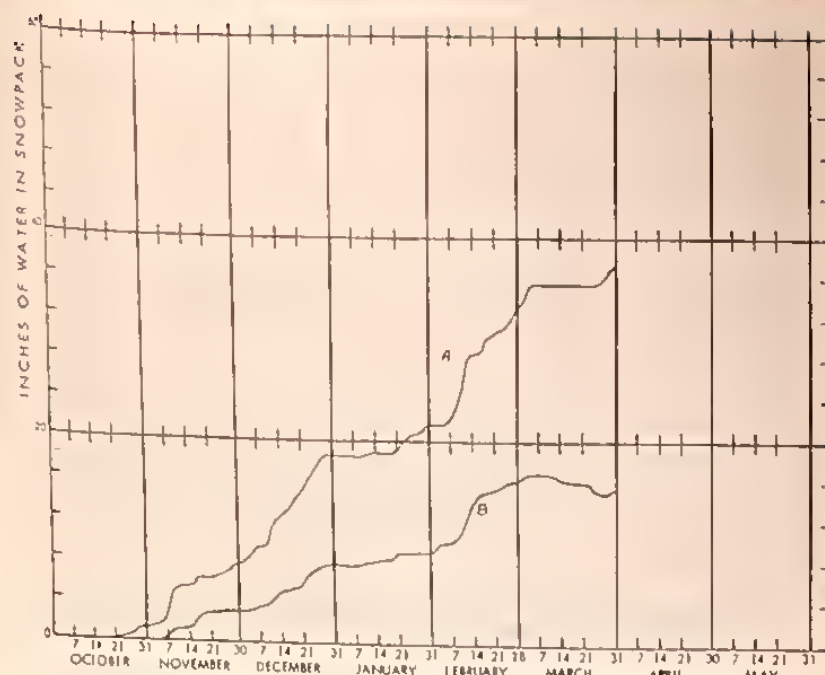
BITTERROOT MOUNTAINS

A Twin Lakes, elevation 6,400 ft.
B Twelvemile Creek, elevation 5,600 ft.



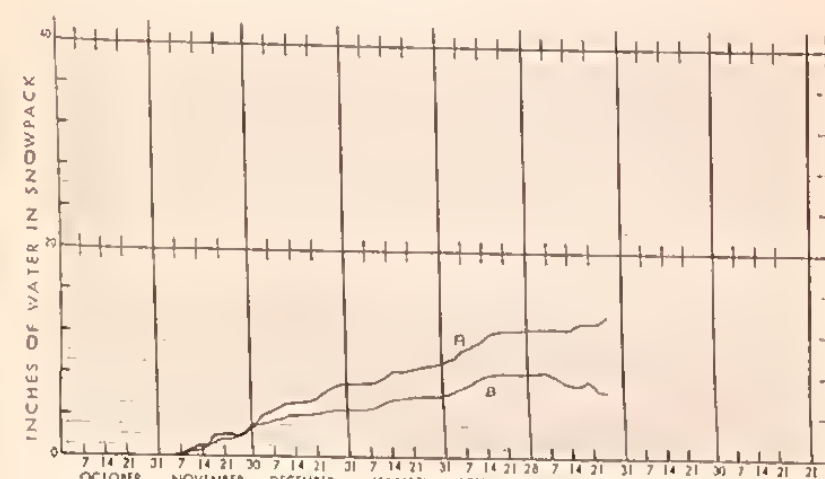
CENTENIAL & BEAVERHEAD MOUNTAINS

A Lakeview Ridge, elevation 7,400 ft.
B Beagle Springs, elevation 8,850 ft.



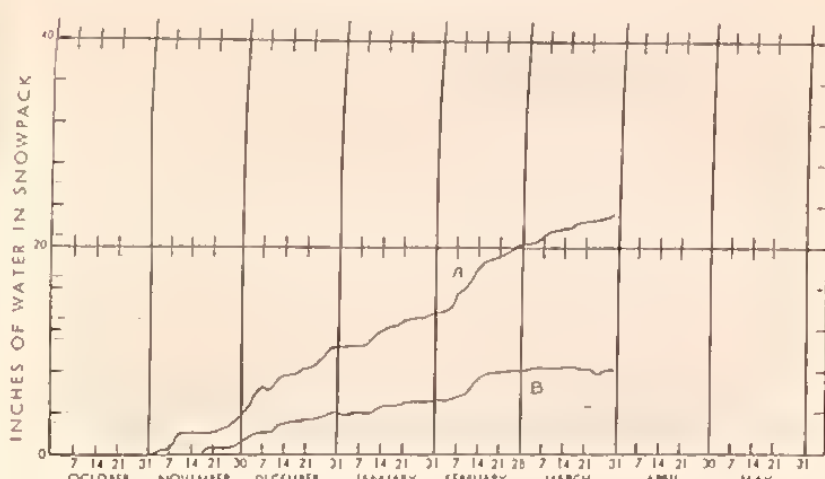
GLACIER PARK

A Flattop Mountain, elevation 6,300 ft.
B Many Glacier, elevation 4,900 ft.



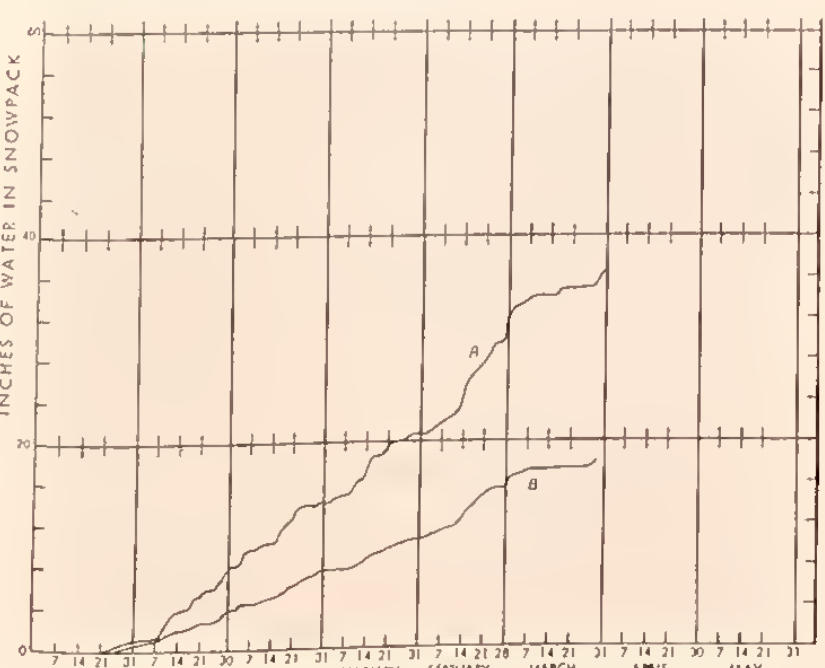
GARNET RANGE

A North Fork Elk Creek, elevation 6,250 ft.
B Lubrecht Flume, elevation 4,680 ft.



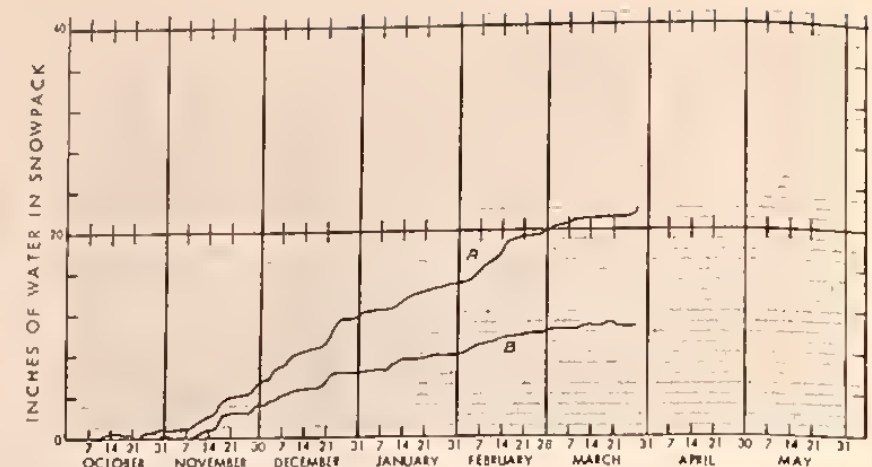
BITTERROOT MOUNTAINS-ANACONDA RANGE

A Saddle Mountain, elevation 7,900 ft.
B Calvert Creek, elevation 6,430 ft.

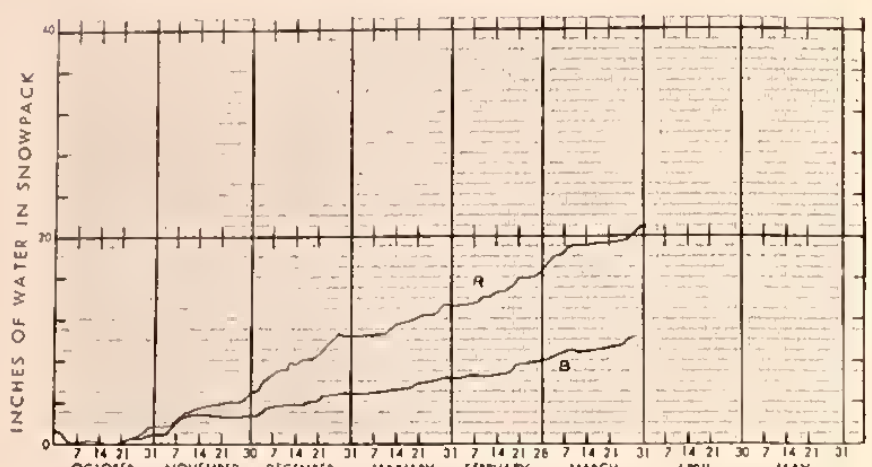


MADISON PLATEAU

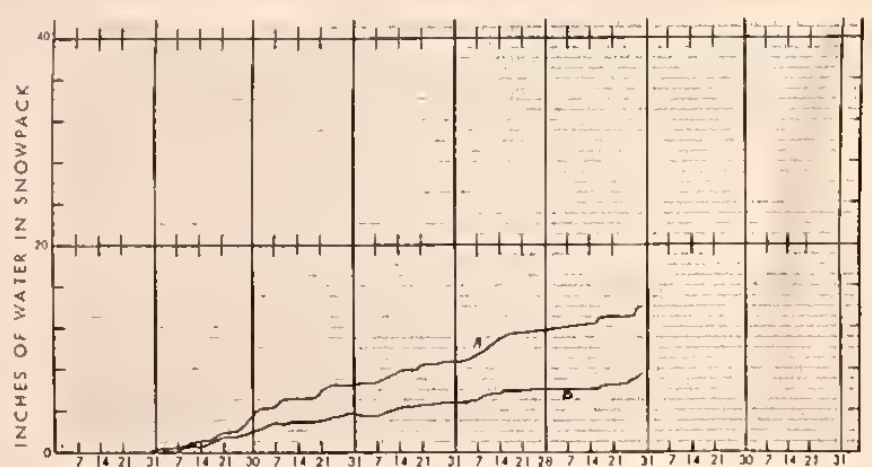
A Black Bear, elevation 7,950 ft.
B Whiskey Creek, elevation 6,800 ft.



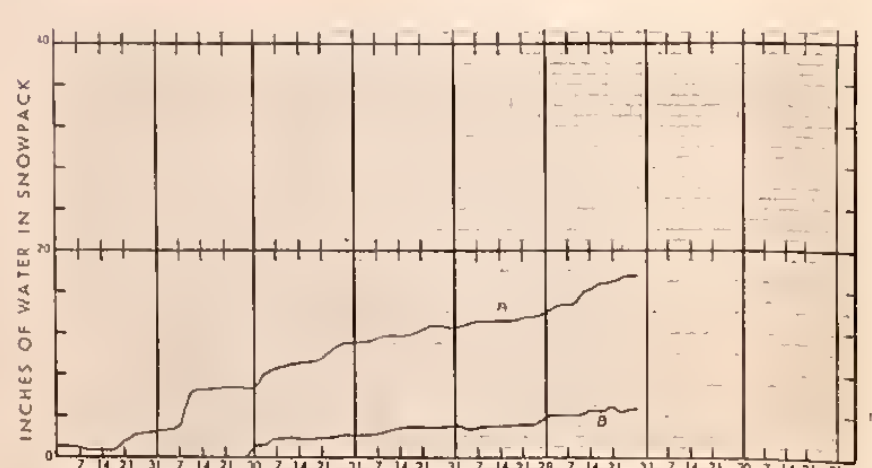
LITTLE BELT MOUNTAINS
A Spur Park, elevation 8,100 ft.
B Deadman Creek, elevation 6,450 ft.



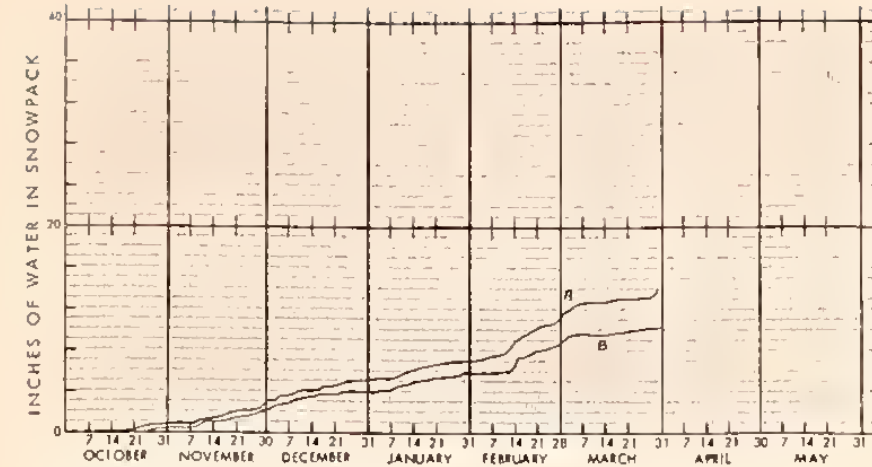
GALLATIN RANGE
A Shower Falls, elevation 8,100 ft.
B Lick Creek, elevation 6,860 ft.



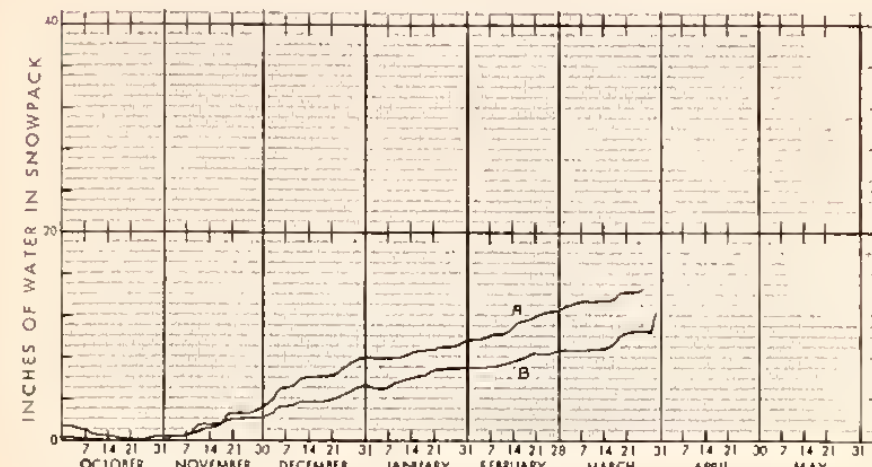
LITTLE BELT MOUNTAINS
A Black Pine, elevation 7,100 ft.
B Combination, elevation 5,600 ft.



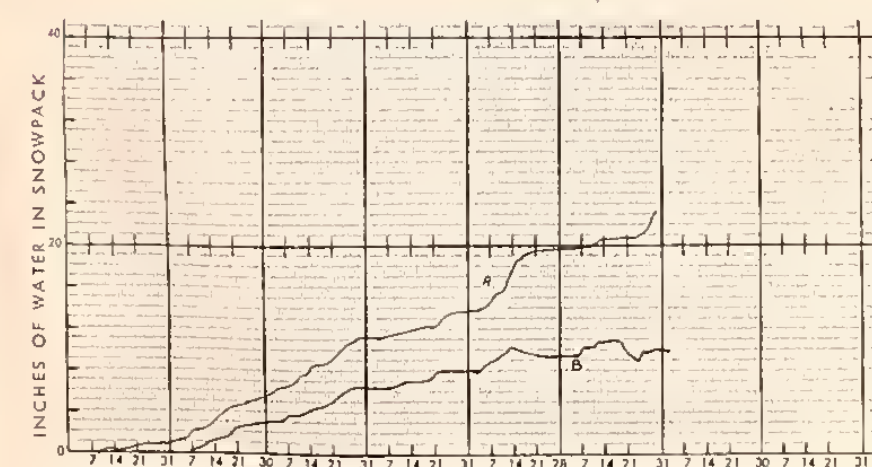
BEARTOOTH MOUNTAINS
A Cole Creek, elevation 7,850 ft.
B Silver Run, elevation 6,630 ft.



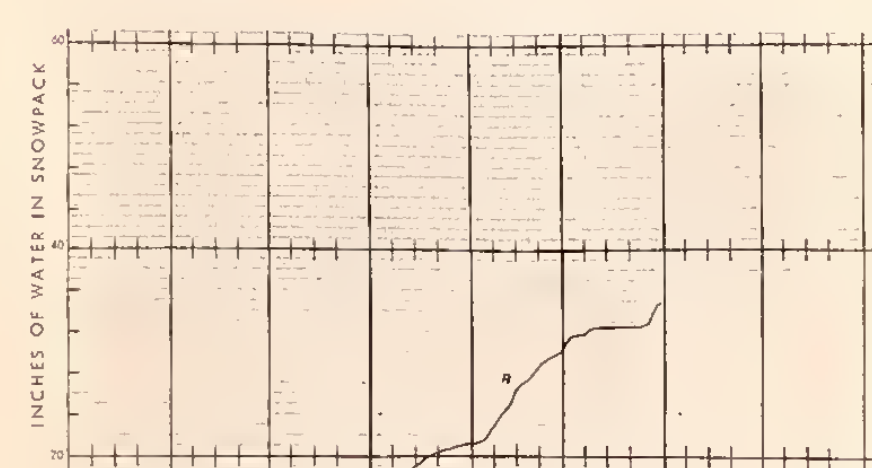
GRAVELLY RANGE
A Tepee Creek, elevation 8,000 ft.
B Divide, elevation 7,800 ft.



CONTINENTAL DIVIDE
A Rocker Peak, elevation 8,000 ft.
B Frohner Meadow, elevation 6,480 ft.



LEWIS MOUNTAINS
A Mount Lockhart, elevation 6,400 ft.
B Waldron, elevation 5,600 ft.



BEARTOOTH MOUNTAINS
A Fisher Creek, elevation 9,100 ft.
B Northeast Entrance, elevation 7,350 ft.

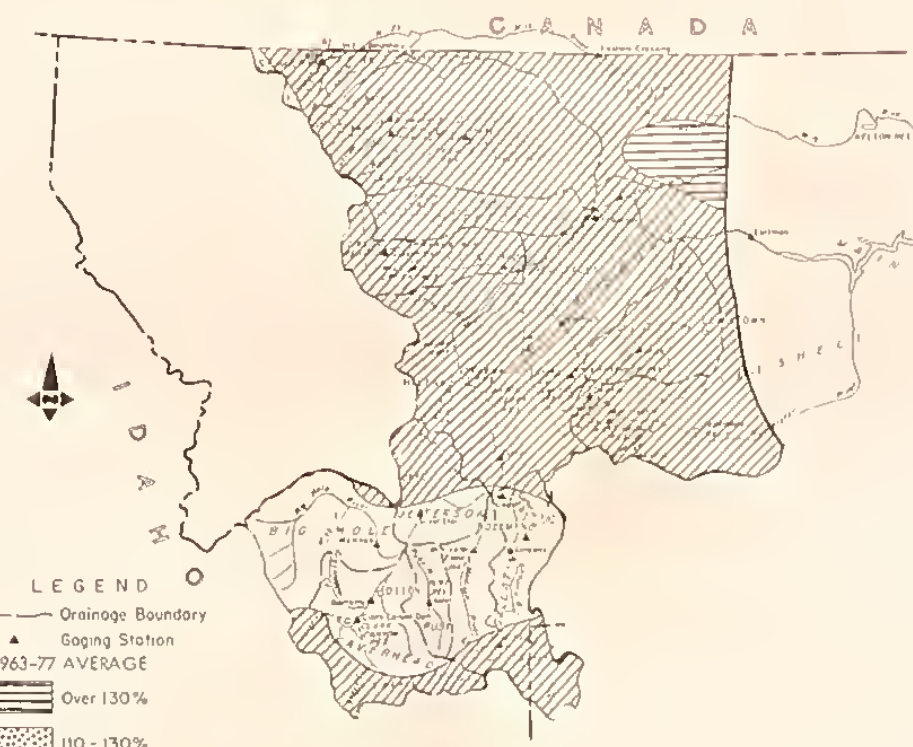
Missouri River & Hudson Bay Drainages

BASIN, STREAM AND/OR FORECAST POINT	THIS YEAR		LAST RECORD		THIS YEAR		LAST RECORD	
	Forecast	Actual	Forecast	Actual	Forecast	Actual	Forecast	Actual
Average based on 1963-1977 period.								
PERIOD April - September								
BEAVERHEAD RIVER near Grant (1)	135	79	171	120	81	148		
BEAVERHEAD RIVER at Barratts (1)	180	80	226	157	80	196		
RUBY RIVER near Alder	86.0	82	105	72.0	81	89.0		
BIG HOLE RIVER near Melrose	580	73	792	530	73	730		
BOULDER RIVER near BOULDER	100	101	115	99.1	103	93.5		
WILLOW CREEK near Harrison	15.1	70	21.5	13.6	71	19.2		
MAISON RIVER near Grayling (2)	495	95	469	390	95	409		
MAISON RIVER near McAllister (3)	800	90	853	892	91	706		
GALLATIN RIVER near Gateway	475	83	572	410	84	488		
INFLOW MIDDLE CREEK RESERVOIR near Bozeman (4)	24.0	80	30.1	20.5	79	26.0		
HYALITE CREEK near Bozeman (5)	37.5	79	47.4	32.5	79	41.0		
GALLATIN RIVER at Logan	490	76	649	420	75	557		
MISSOURI RIVER at Toston (6) (HWS)	2100	79	2845	2,672	79	2401	2,330	
SHEEP CREEK near White Sulphur Springs	20.5	90	33.4	17.8	90	28.5	19.8	
SUN RIVER at Gibson Dam (7)	535	93	661	578	93	529		
BELT CREEK near Monarch	135	92	146	125	93	134		
MISSOURI RIVER at Fort Benton (8) (HWS)	3270	79	4,148	2850	78	3,640		
TWO MEDICINE CREEK near Browning (9)	238	92	259	227	93	244		
BAOGER CREEK near Browning	123	92	133	106	91	116		
MARIAS RIVER near Shelby (HWS)	515	89	577	480	90	532		
MISSOURI RIVER at Virgelle (10) (HWS)	3870	81	4,794	3450	81	4,238		
SOUTH FORK JUDITH RIVER near Utica	13.4	90	14.9	12.2	90	13.6		
MISSOURI RIVER near Landusky (10) (HWS)	4290	82	5,215	3750	82	4,586		
NORTH FORK MUSSELSHELL RIVER near Oelpline	6.0	94	6.4	5.1	93	5.5		
SOUTH FORK MUSSELSHELL RIVER above Martinsdale	52.0	85	61.5	49.5	86	57.6		
MISSOURI RIVER below Fort Peck Dam (11) (HWS)	4190	85	4,929	3750	86	4,381		
MILK RIVER at Eastern Crossing (HWS)	231	90	256					
MISSOURI RIVER near Wolf Point (12)	4800	87	5,525	4250	87	4,885		
MISSOURI RIVER near Williston, North Dakota (3)	12250	91	13,522	10800	91	11,864		
SASKATCHEWAN RIVER BASIN								
ST. MARY'S RIVER near Babb (14)	455	91	455	382	90	426		

- (1) Adjusted for storage in Lima and Clark Canyon Reservoirs.
- (2) Adjusted for storage in Hebgen Lake.
- (3) Adjusted for storage in Hebgen Lake and Ennis Lake.
- (4) Sum of West Fork Hyalite Creek and East Fork Hyalite Creek above the Reservoir.
- (5) Adjusted for storage in Middle Creek Reservoir.
- (6) Adjusted for storage in Lima, Hebgen, Ennis & Clark Canyon Reservoirs.
- (7) Adjusted for storage in Gibbon Reservoir & diversions.
- (8) Adjusted for storage in Lima, Clark Canyon, Hebgen, Ennis, Gibbon, Pliskun, Willow Creek & Canyon Ferry Reservoirs.
- (9) Adjusted for storage in Two Medicine Reservoir & diversions in Two Medicine Canal.
- (10) Adjusted for Lima, Clark Canyon, Hebgen, Ennis, Gibbon, Pliskun, Willow Creek, Canyon Ferry, Elwell (Tiber) Reservoirs.
- (11) Adjusted for Ft. Peck in addition to those shown in (10).
- (12) Adjusted for storage in Canyon Ferry, Elwell (Tiber) and Ft. Peck Reservoirs.
- (13) Sum Yellowstone River near Sidney & Missouri River near Culbertson.
- (14) Adjusted for storage in Lake Sherburne.
- (HWS) National Weather Service Forecast.

SUMMARY OF SNOW MEASUREMENTS

RIVER BASIN AND SUBWATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		LAST YEAR	AVERAGE
Beaverhead	19	94	94
Ruby	9	83	84
Big Hole	18	83	86
Boulder	10	117	105
Jefferson	56	90	91
Madison	23	90	93
Gallatin	18	83	85
Missouri Headwater	97	89	90
West-side Missouri (Toston-Cascade)	7	114	110
Smith & Belt	6	83	97
Missouri Main-stem	13	95	103
Teton & Sun	6	109	105
Marias	2	100	81
Marias-Teton-Sun	8	106	95
Judith	6	83	96
Musselshell	8	91	107
Judith-Musselshell	14	87	102
Milk	8	97	143
Bear Paws	4	73	128
Missouri (Total)	140	90	94
Saskatchewan			
St. Mary's	2	122	88
Bow River in Alberta	3	101	91



MISSOURI RIVER & HUDSON BAY DRAINAGES
MONTANA
MOUNTAIN SNOW WATER EQUIVALENT

WATER SUPPLY OUTLOOK		
STREAMS AREA	Snow Pack	
	Spring Season	Early Season
Beaverhead	Avg	Fair
Ruby	Avg	Fair
Big Hole	Avg	Fair
Boulder	Ex	Avg
Jefferson	Avg	Fair
Madison	Avg	Avg
Gallatin	Avg	Fair
West-Side Missouri	Ex	Avg
Smith-Belt	Avg	Avg
Sun	Avg	Avg
Teton	Avg	Avg
Marias	Avg	Avg
Judith	Avg	Avg
Musselshell	Avg	Avg
Milk	Ex	Avg
Bear Paws	Ex	Avg
St. Mary's	Avg	Avg

Streamflow in the Missouri headwaters is forecast to be 10 to 20 percent below average on most tributaries. Exceptions are the Upper Madison and Boulder Rivers where near average runoff is anticipated. Runoff from most drainages downstream from Canyon Ferry Reservoir is expected to be 5 to 10 percent below average. Streams draining the Bear Paw and Little Rocky Mountains should have above average runoff. Early season runoff will be above normal while some shortage of irrigation water can be expected by mid-season, particularly in the Missouri headwaters area.

Considerable runoff occurred during March in the Milk River drainage.



Snow surveyors making snow depth and water equivalent measurements at one of Montana's 250 snow courses.



Yellowstone River Drainage

BASIN, STREAM and/or FORECAST POINT	THIS YEAR		PAST RECORD		THIS YEAR		PAST RECORD	
	FORECAST		THOUSAND ACRE FEET		FORECAST		THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average	Last Year	Average	Thousand Acre Feet	Percent of Average	Last Year	Average
Averages based on 1963-1977 period								
	PERIOD April - September				PERIOD April - July			
YELLOWSTONE RIVER at Corwin Springs	2070	98	2157	2,102	1710	101	1756	1,688
YELLOWSTONE RIVER near Livingston	2340	95		2,471	1935	94		2,048
BOULDER RIVER at Big Timber	375	90		416	350	92		382
STILLWATER near Absarokee (1)	595	90		660	500	90		555
CLARK'S FORK RIVER near Belfry	578	95		608	525	95		541
CLARK'S FORK RIVER near Silesia	660	95		695	555	94		588
ROCK CREEK near Red Lodge	111	94	109	118	85.0	93	81.9	91.4
INFLOW COONEY RESERVOIR near Boyd (2)	58.0	92		63.3	48.0	91		52.7
YELLOWSTONE RIVER at Billings (NWS)	4380	94	5500	4,682	3783	95	4605	3,979
BIGHORN RIVER near St. Xavier (3) (NWS)	1940	95	2679	2,034	1800	97	2400	1,861
LITTLE BIGHORN RIVER near Hardin	163	83		196	145	83		174
YELLOWSTONE RIVER at Miles City (4) (NWS)	6630	93		7,142	5950	93		6,243
YELLOWSTONE RIVER near Sidney (5) (NWS)	7280	93		7,807	6400	94		6,805

- (1) Adjusted for storage in Mystic Lake.
(2) Adjusted for storage in Cooney Reservoir.
(3) Adjusted for storage in Buffalo Bill, Boysen, Bull Lake, Pilot Butte and Bighorn Reservoirs.

- (4) Adjusted for storage in Bull Lake, Buffalo Bill, Boysen, Pilot Butte, Bighorn and Tongue River Reservoirs.
(5) Adjusted for reservoirs shown in (4) and diversions into the Lower Yellowstone Canal.
(NWS) National Weather Service forecast.

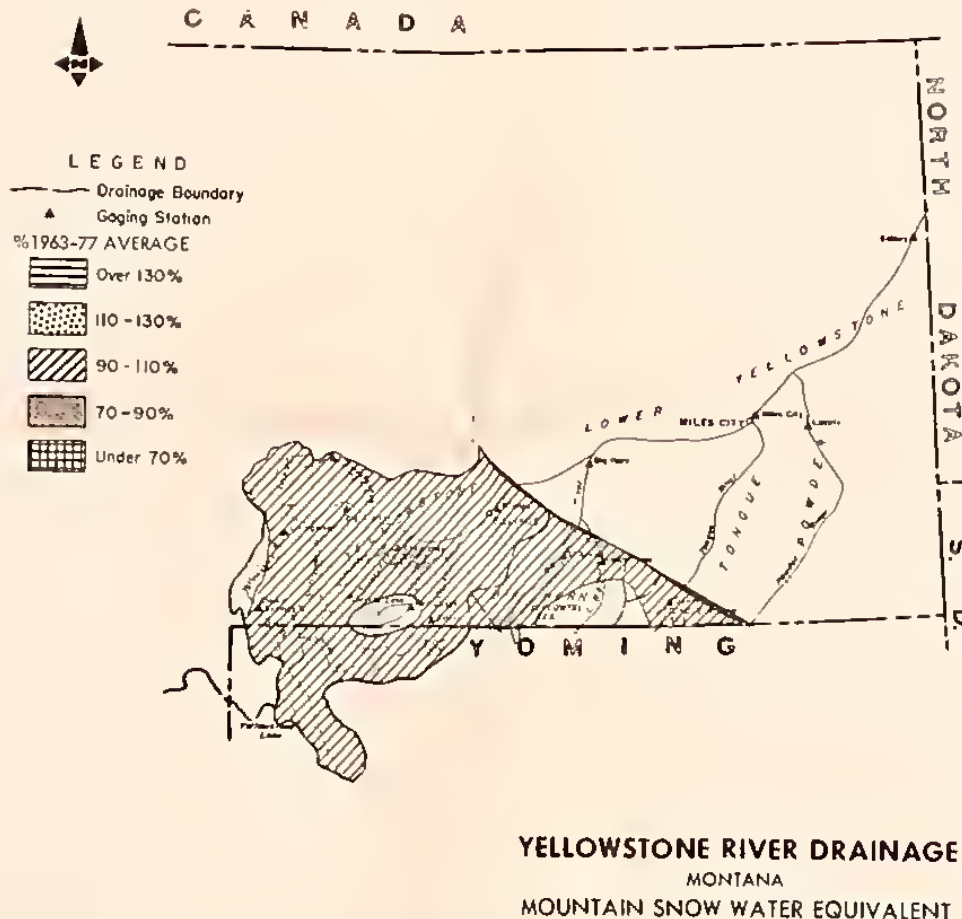


MOUNTAIN SNOWPACK

Nearly all headwater areas have about average or slightly below average amounts of water stored in the snowpack. The area along the Gallatin-Yellowstone divide is somewhat lower than other areas in the basin, with the snowpack about 20 percent below average. The West Fork of Rock Creek drainage near Red Lodge and the north end of the Bighorn Mountains also show below average snow. Some melt has occurred in lower elevations. Most valley snow has melted with most of the water going into the soil.

SUMMARY of SNOW MEASUREMENTS

RIVER BASIN and/or SUBWATERSHED	Number of Gauging Stations	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average
Upper Yellowstone	16	86	91
Shields	7	86	98
Boulder & Stillwater	8	100	92
Rock Creek & Clark's Fork	12	101	90
Yellowstone (ab Bighorn River)	43	92	92
Bighorn/Wyoming	29	89	93
Little Bighorn	4	93	93
Bighorn (Total)	33	90	93
Tongue	7	96	88
Powder	5	91	79
Yellowstone (Total)	76	91	92



STREAMFLOW FORECASTS

Most streams are forecast to have spring and summer runoff between 5 and 10 percent below average. Below average seasonal runoff is expected on the Little Bighorn. However, the early season runoff could be above average, dropping to below average after the low elevation snowpack melts. The West Fork of Rock Creek drainage near Red Lodge appears to have less snow than surrounding drainages and could produce somewhat less than average runoff.

Most streams are expected to provide above average early season runoff. After mid-season, irrigation water supplies should be average or slightly below average.

WATER SUPPLY OUTLOOK

STREAM or AREA	Flow Period	
	Spring Season	Little Season
Yellowstone at Livingston	Avg	Avg
Shields	Avg	Avg
Boulder	Avg	Avg
Sweetgrass - Big Timber	Avg	Avg
Stillwater	Avg	Avg
Rock Creek	Avg	Avg
Clark's Fork	Avg	Avg
Yellowstone above Bighorn	Avg	Avg
Bighorn	Avg	Avg
Little Bighorn	Avg	Fair
Tongue	Avg	Avg
Powder	Avg	Avg
Lower Yellowstone	Avg	Avg

AGENCIES AND ORGANIZATIONS COOPERATING IN MONTANA SNOW SURVEYS

GOVERNMENT AGENCIES

Canada

Water Survey of Canada, Calgary, Department of the Environment
Water Resources Service, Department of Lands, Forests and Water Resources, British Columbia
Alberta Environment, Edmonton, Alberta

Federal

Department of the Army - Corps of Engineers
Department of Agriculture - Forest Service
- Soil Conservation Service
Department of Commerce - NOAA
- National Weather Service
Department of Interior - Bonneville Power Administration
- Bureau of Indian Affairs
- Bureau of Reclamation
- Fish and Wildlife Service
- Geological Survey
- National Park Service

STATE AGENCIES

Montana Conservation Districts
Montana Department of Fish and Game
Montana Department of Natural Resources and Conservation
Montana State University - Agricultural Experiment Station
University of Montana - School of Forestry
DNRC - State Forester

PRIVATE ORGANIZATIONS AND INDIVIDUALS

Butte Water Company
Montana Power Company
The Anaconda Company
Big Sky of Montana
Jack & Scott Graveley
Arthur Christensen
Jack Fenton

